Title: COLEMAN REGENERATIVE ENGINE

WITH EXHAUST GAS WATER EXTRACTION

This application is a Division of Serial No. 09/970,032, filed 10/2/2001, now issued as US Patent No. 6,651,421 11/25/2003, which claims priority to US Provisional Patent Ser. No. 60/237,558 filed 10/2/2000.

TECHNICAL FIELD

The invention relates to the field of gas turbine engines and to the field of power generation and to water reclamation; more particularly, it relates to method and apparatus for a gas turbine regenerative engine with exhaust gas water extraction.

BACKGROUND OF THE INVENTION

Variations of Gas Turbines

There are many variations on simple cycle gas turbines. Each offers something special, be it operating economies or features that meet specific needs. The features might be small size, lightness in weight, high reliability, simplicity, or another measurable attribute. Emphasis is often placed on performance and power density, and achieving these objectives through use of known technologies and sound design principles for compressors, turbines, combustors, heat exchangers, and technology from related conventional materials sciences would be desirable. It is expected that achieving large gains requires the component arrangement to be new and different, to depart significantly from conventional designs. Any departure that results in an increase in complexity also has to significantly improve performance to be commercially useful; the more the departure, the more attractive the gains have to be.

Without question, component research and development efforts over recent years have served well to define advanced levels of aerodynamic and thermodynamic component efficiency. By combining these advances with similar gains in materials sciences and